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No. 34

# LABORATORY BULLETIN

MONTANA STATE DEPARTMENT OF HEALTH  
HELENA, MONTANA



No. 34 - May 10, 1971

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## SERVICES (TESTS) AVAILABLE

We have two functions authorized by State Law and implemented by Regulations of the Department of Health and Environmental Sciences as adopted by the Board.

1. The provision of laboratory services to support projects within programs of the department.
2. To carry on a laboratory improvement program. This is a more pleasing term for activities concerned with registration, certification, inspection and approval of laboratories and personnel. The major provisions for this are contained in Title XVIII of the Social Security Act (Medicare), Code of Federal Regulations, Title 20, Chapter III, Part 405; CFR IX. Laboratories (405.1028); Department Regulation 60-001; and regulations concerned with the laboratory aspects of the control of venereal diseases. (Program = Health Care Facilities and Services)

This bulletin will be concerned with services provided under 1.

Tests are performed for:

### A. Program - Health Services

- Project: Tuberculosis Control
- culture for acid fast organisms<sup>1</sup>
  - antibiotic sensitivity testing of mycobacteria with primary drugs

- Project: Venereal Diseases
- Venereal Disease Research Laboratory (VDRL) tests
  - Fluorescent treponemal antibody absorption test (FTA-ABS)<sup>2</sup>
  - Approval of laboratories to perform serological tests for syphilis
  - culture for N. gonorrhoeae<sup>2</sup>

- Project: Vaccinable Diseases
- hemagglutination inhibition tests for rubella antibodies
  - complement fixation tests for rubeola antibodies
  - tissue-culture neutralization for poliomyelitis antibodies
  - isolation of poliovirus by inoculation of fecal material from rectal swabs into tissue cultures
  - throat culture for diphtheria bacilli; these should be submitted on Loeffler's Medium and this medium is only useful for diphtheria
  - Tetanus - culture for anaerobes

- inoculation of material from throat swabs into embryonated eggs for isolation of influenza virus<sup>2</sup> - this is only worthwhile when an epidemic of classical viral influenza is in progress
- complement fixation tests and hemagglutination inhibition tests for influenza antibodies
- complement fixation for mumps to confirm meningoencephalitis caused by this virus
- complement fixation tests for Rocky Mountain spotted fever

Project: Other Communicable Diseases

Viral, rickettsial, and chlamydial diseases

- isolation of viruses - this is where much money and effort can be wasted. It is necessary to be specific in your request for this service - we can't just inoculate material "willy-nilly" to see if a virus will grow. In addition to influenza (mentioned previously) here are the viral infections from which we may be able to isolate an agent:
  - Enteroviruses (Polio, ECHO, Coxsackie) - rectal swab in viral transport medium inoculated into primary monkey kidney and Hep-2 tissue cultures - isolates are obtained usually from cases of aseptic meningitis during July-August-September, the enterovirus - arbovirus season in Montana
  - Adenoviruses - acute febrile respiratory illness, sometimes with an accompanying conjunctivitis - from throat swabs and occasionally rectal swabs
  - Respiratory syncytial virus - acute febrile respiratory illness in young children - from throat swabs
  - Herpes simplex - from spinal fluid in cases of meningitis suspected of being caused by this virus
  - Colorado tick fever - by inoculation of the blood clot into tissue cultures or suckling mice
- serological tests for:
  - Q fever, Colorado tick fever, mycoplasma pneumonia, psittacosis<sup>3</sup>, infectious mononucleosis and adenovirus

Bacterial & other diseases

- agglutination tests for tularemia and brucellosis
- culture of materials from wounds, abscesses and other materials for anaerobic microorganisms<sup>2</sup>
- culture study of meningitis suspected of being caused by Haemophilus or Neisseria - preferably send isolated organism on chocolate agar slants with carbon dioxide atmosphere trapped in the tube (this can be accomplished in a candle jar) - alternately submit in Stuart's Transport Medium or on agar plates; the latter must be fresh cultures and submitted by the most rapid means available since organisms do not survive on plates for very long periods
- examination for parasites and ova - kits supplied by state lab<sup>1</sup>
- antibiotic sensitivity testing on pure cultures - only when not available in local facility
- cultures the local laboratory is not able to identify and which appear to have clinical significance may be referred to the state laboratory for identification
- serological tests for leptospirosis, toxoplasmosis and histoplasmosis<sup>3</sup>
- culture for Salmonella-Shigella and other enteric pathogens<sup>2</sup>
- culture for fungi<sup>2</sup>
- total cholesterol for coronary prevention project<sup>4</sup>
- throat culture for beta hemolytic streptococci with serologic grouping if positive<sup>1</sup>

Project: Multiphasic Screening

Project: Rheumatic Fever Prevention

- C. Program - Health Care Facilities and Services (Hospital and Medical Facilities Division)
- all of the services provided to this program come under 2.

- D. Program - Environmental Health (Environmental Sciences Division)
- Project: Bacteriological testing of potable water supplies<sup>1</sup>

Project: Bacteriological testing for water pollution control<sup>4</sup>

Project: Bacteriological testing of food suspected of causing food poisoning<sup>4</sup>

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Footnotes for Services:

- <sup>1</sup>Directions for collection of specimens and type of sample desired are contained in the kits which are supplied by the laboratory.
- <sup>2</sup>Instructions and discussion of tests are contained in a laboratory bulletin. (Index to Laboratory Bulletins will be sent soon as an issue of the bulletin.)
- <sup>3</sup>Specimens referred for testing to the Rocky Mountain Laboratory, Hamilton, Montana or to the Center for Disease Control, Atlanta, Georgia.
- <sup>4</sup>Testing of specimens collected by personnel of the State Department of Health only in connection with special projects.

CLINICAL MICROBIOLOGY

We do not have the time or facilities to serve as a general clinical microbiology laboratory. Specimens of this nature should be processed in a local hospital laboratory or infectious disease center. In Missoula, when microbiological services were very limited, the Western Montana Medical Society sponsored an infectious disease center. This is run by a very competent clinical microbiologist and could serve as a model for other areas where hospital laboratories are reluctant to do microbiology on outpatients. The activities in the state laboratory are primarily of a reference nature associated with the prevention and control of communicable diseases as listed above.

In Montana, tests for rabies are done in the Bacteriological and Pathological Laboratory, Montana Livestock Sanitary Board, Bozeman, Montana 59715. Specimens should be sent directly there.

State-approved proficiency testing systems for Montana which fulfill Medicare requirements are:

- The Basic Laboratory Survey of the College of American Pathologists
- The check-sample programs of the American Society of Clinical Pathologists
- The Institute for Clinical Sciences (Sunderman's) for Clinical Chemistry
- The Evaluation Program of the American Association of Bioanalysts

FOR THE HOSPITAL LABORATORIES THERE IS ENCLOSED WITH THIS BULLETIN A COPY OF PROPOSED STANDARDS FOR LABORATORIES IN HOSPITALS WHICH PROVIDE SERVICES UNDER MEDICARE. FOR MOST OF US IN MONTANA THIS REPRESENTS A GOAL TOWARDS WHICH WE SHOULD STRIVE RATHER THAN A CURRENT REALITY.